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**REMARKS**

Claims 1-13 remain in the application including independent claims 1 and 9. New dependent claims 14-20 have been added. Claims 5 and 12 are indicated as allowable. Claim 13 has solely been amended to correct a typographical error in the claim dependency.

Applicant submitted a form PTO-1449 listing US 5446790 to Tanaka et al., US 5828759 to Everingham, and US 6084971 to McLean with the filing of the subject application. The examiner has applied the Everingham reference against Applicant's claims, however, Applicant has not received an initialed copy of the subject PTO-1449. Applicant respectfully requests an initialed copy of the subject PTO-1449.

Claims 1, 2, 7, and 9 stand rejected under 35 U.S.C. 102(b) as being anticipated by Tomisawa. Claim 1 includes the combination of an air inlet duct housing having an inlet end into which air is drawn and an outlet end operably connected to an engine, a sound detector for sensing noise emanating from the air inlet duct, a speaker mounted within the air inlet duct housing and facing the inlet end, and a resonator supported by the housing and positioned between the speaker and the engine. Tomisawa does not disclose this combination of features.

The examiner argue that Tomisawa discloses an air inlet duct 3, engine 1, sound detector 46, speaker 45 mounted within the air inlet duct 3, resonator 5 (hollow chamber), and microphone 46. First, the speaker 45 does not face the inlet end of the air inlet duct housing 3. Figure 7 clearly shows that the speaker faces the housing wall and not the inlet. Second, the microphone 46 does not sense noise emanating from the air inlet as the speaker 45 is positioned near the inlet while the microphone 46 is positioned downstream of the speaker 46 and near the engine throttle 4. Finally, hollow chamber 5 is not a resonator.

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While it is well settled that terms in a claim are to be given their broadest reasonable interpretation, this interpretation must be consistent with the specification, with claim language being read in light of the specification as it would be interpreted by one of ordinary skill in the art. In re Bond, 15 USPO2d 1566, 1567 (Fed. Cir. 1990). The examiner has improperly expanded the meaning to be given to the claim language "resonator."

As shown in Figures 2 and 3 and as described in the accompanying specification, the subject invention utilizes a resonator 30 that is supported by the housing 12 and is positioned between the speaker 20 and the engine 14. The resonator 30 attenuates high frequency or peak engine noise while the microphone 22 and speaker 20 attenuate the low frequency engine noise. See Page 4, lines 10-21 and Page 5, line 19 through Page 6, line 2. The resonator 30 includes a structure that can have different sizes and shapes, and which defines a hollow chamber with dimensions chosen to permit internal resonant oscillation of acoustical waves of specific frequencies. See Page 5, lines 1-6.

The examiner's "resonator" in Tomisawa is simply an air intake collector that collects air prior to entry into the engine manifold 6. There is no teaching in Tomisawa that hollow chamber 5 is a resonator similar to that described in Applicant's specification. One of ordinary skill in the art would never consider hollow chamber 5 in Tomisawa as corresponding to Applicant's claimed resonator, especially as Tomisawa expressly describes element 5 as being an air intake collector, not a resonator. Thus, Tomisawa does not anticipate claim 1.

For similar reasons to those discussed above, Tomisawa does not anticipate claim 9. Further, claim 9 requires the resonator to attenuate peak engine noise, which results in an attenuated low frequency engine noise with the sound detector sensing this attenuated low

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frequency engine noise and the controller receiving and phase shifting the attenuated low frequency engine noise to attenuate the attenuated low frequency engine noise. There is absolutely no teaching in Tomisawa of the combination of a resonator attenuating a higher peak noise and a speaker, sound detector, and controller cooperating to attenuate a lower frequency engine noise. The rejection of claims 1, 2, 7, 9, and 10 under 35 U.S.C. 102(b) as being anticipated by Tomisawa is improper and must be withdrawn.

Claims 1, 2, 7, 9, and 10 stand rejected under 35 U.S.C. 102(b) as being anticipated by Everingham. The examiner argues that Everingham discloses an inlet duct 12, a sound detector 42, a speaker 30, and a resonator 26.

Again, as discussed above, the examiner has improperly expanded the meaning to be given to the claim language "resonator." The examiner's "resonator" in Everingham is simply an open annular space that is defined between the speaker enclosure 22 and the wall of housing 12. This open space 26 simply facilitates airflow around the speaker 30. There is no teaching in Everingham that annular space 26 is a resonator similar to that described in Applicant's specification. One of ordinary skill in the art would not consider annular space 26 in Everingham as corresponding to Applicant's claimed resonator, especially as Everingham expressly describes element 26 as simply being an open space, not a resonator. Thus, Everingham does not anticipate claim 1.

For similar reasons to those discussed above, Everingham does not anticipate claim 9. Further, as discussed above, claim 9 requires the resonator to attenuate peak engine noise and the speaker to attenuate the lower frequency engine noise. There is absolutely no teaching in Everingham of the combination of any type of resonator attenuating a higher peak noise in

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combination with a speaker, sound detector, and controller attenuating a lower frequency engine noise. The rejection of claims 1, 2, 7, 9, and 10 under 35 U.S.C. 102(b) as being anticipated by Everingham is improper and must be withdrawn.

Claims 1-4, 6, 9, 10, and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Brackett in view of Tanaka. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. The extent to which such suggestion must be explicit in, or may be fairly inferred from, the references, is decided on the facts of each case, in light of the prior art and its relationship to Applicant's invention. It is impermissible to engage in a hindsight reconstruction of the claimed invention, using applicant's structure as a template and selecting elements from references to fill the gaps. The references themselves must provide some teaching whereby the claimed combination would have been obvious. In re Gorman, 933 F.2d 982, 986, 18USPQ2d 1885, 1888 (Fed. Cir. 1991).

There is no motivation or suggestion to modify Brackett with Tanaka. The examiner admits that Brackett does not disclose or teach the use of a resonator. However, the examiner argues that it would be obvious to include the resonator from Tanaka in Brackett to enhance noise cancellation. Applicant disagrees.

Brackett was seeking to solve a specific problem related to the tuning of the air induction system for an internal combustion engine. Brackett was seeking to avoid the limitation of a fixed number of tuning peaks, traditionally accomplished by fixed or variable length runner lengths for the intake manifold, by providing a new and unique way to obtain infinitely variable broadband tuning. Brackett accomplished this by utilizing two (2) speakers positioned at different locations

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within the air induction system. The use of a resonator as taught by Tanaka would only provide one additional fixed tuning peak, which was the problem that Brackett was trying to eliminate. Thus, there would be no reason to include a resonator in addition to the two speakers in Brackett.

Tanaka also supports this conclusion. Tanaka states that "the capacity of such a resonator is limited to a fixed value." Col. 1, lines 18-19. Tanaka also states that in order to achieve variable reduction of noise, a plurality of resonators had to be used. See Col 1., lines 23-30. Tanaka further teaches that the use of multiple resonators is not desirable because of the large amount of packaging space required for such a configuration. See Col. 1, lines 31-34. Thus, Tanaka actually teaches away from the incorporation of a resonator in a system like that of Brackett. Brackett provided variable tuning by utilizing two speakers at two different locations. There would be no benefit achieved by adding a resonator of a fixed tuning value to Brackett's systems. Thus, the rejection of claims 1-4, 6, 9, 10, and 13 under 35 U.S.C. 103(a) based on the combination of Brackett as modified by Tanaka is improper and must be withdrawn.

Further, the references even if properly combined, do not disclose, suggest, or teach all of the claimed features. Claims 1 and 9 require the speaker to face the inlet of the air duct housing. Neither reference teaches this orientation (see Figures 1 and 3 of Brackett and Figure 1 of Tanaka). Further, claim 9 requires the resonator to attenuate peak engine noise and the speaker to attenuate the lower frequency engine noise. There is absolutely no teaching in either of the references of an air induction system using a resonator to attenuate a higher peak noise in combination with using a speaker, sound detector, and controller to attenuate a lower frequency engine noise.

The references also do not teach the features of the dependent claims. For example claim 4 requires that the resonator be mounted to the filter. This configuration is not shown in any of the

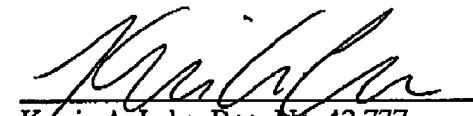
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references. The examiner argues that a modified Brackett invention would have a resonator between the engine and the speaker and that since air filter is next to the speaker 28, the "resonator would have to be mounted next to the air filter." This interpretation ignores the specific language of claim 4, which requires the resonator to be "mounted to the filter." There is no "next to" language in claim 4. None of the references teach mounting a resonator to the filter. Thus, the rejection of claim 4 is improper.

Claims 8 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Everingham or Tomisawa in view of Guenther. For the reasons set forth above, neither Everingham nor Tomisawa disclose, suggest or teach the features of the claimed invention set forth in independent claims 1 and 9, from which claims 8 and 11 depend. The addition of Guenther does not make up for the deficiencies of Everingham and Tomisawa. Thus, the combination does not disclose, suggest, or teach the features of claims 8 and 11.

For the reasons set forth above, all claims should be allowed. An indication of such is requested. Applicant believes that no additional fees are required, however, the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional fees or credit the account for any overpayment.

Respectfully submitted,



Kerrie A. Laba, Reg. No. 42,777  
Carlson, Gaskey & Olds  
400 W. Maple Road, Ste. 350  
Birmingham, MI 48009  
(248) 988-8360

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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (703) 872-9306, on January 28, 2004.

  
Laura Combs

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